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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TITLE: ADJUSTABLE STILT

INVENTOR: DENNY WAXLER

BACKGROUND OF THE INVENTION

1. Field of The Invention

The present invention relates to height adjustable stilts in workplace and recreation contexts.

2. Background Information

Many construction activities, such as painting, wallpapering, ceiling texturing, etc., require work performance at heights not reachable by typical workers. Additionally, many professional and recreational activities, such as circus clowns, etc., require performance at elevated heights. In both contexts, professionals and amateurs have struggled with achieving performance at heights unreachable by the person alone. Several methods have been devised to elevate persons from the floor or ground. The problem has been to develop equipment that allows for easy horizontal movement (i.e. walking), is height adjustable, is completely secure in its height adjustment so as to not be vulnerable to catastrophic failures resulting in sudden drop of height, leaves the hands and body free to work, provides stability on flat to moderately rough surfaces, provides shock absorption during movement, is light weight, is portable,

1 fastens securely to the user, is reasonably convenient to
2 mount and dismount, and is cost effective.

3 Achieving all of the desired aspects in one set of
4 stilts is a difficult task at best. Thus, current solutions
5 typically tradeoff some requirements in favor of others.
6 However, the need for a design that addresses the safety
7 issue of sudden catastrophic drops in height, shock
8 absorption, and the relation of these requirements to cost
9 has gone unfulfilled.

10 The present invention, as will be described below,
11 incorporates the fact that many amateurs and professionals
12 will not spend large sums of money for the currently
13 available adjust-on-the-fly stilts commonly used by
14 professionals. This is especially true since many users may
15 only need one height setting to be used for extended periods
16 and thus, have no need for the costly option of immediate
17 on-the-fly height adjustment. Additionally, the present
18 invention provides a level of shock absorption for the user,
19 which is an important comfort aspect for users who spend
20 large amounts of time on stilts. Furthermore, the present
21 invention solves the safety problem of failures of elevation
22 mechanisms resulting in sudden catastrophic drops in height
23 and potential injury to the user.

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It is another object of the present invention to provide a novel means of stilt height adjustment for the user without the use of costly on-the-fly height adjustment mechanisms.

It is another object of the present invention to provide an improved method of shock absorption on mobile stilts.

It is another object of the present invention to provide a novel means for eliminating the risk of sudden catastrophic drops in height from height adjustable stilts.

In satisfaction of these and other related objectives, Applicant's present invention provides for improved height adjustable stilts. Applicant's stilt, in its preferred embodiment, exhibits a base assembly with a base plate with traction surface on the bottom-most position of the assembly. The upper surface of the base assembly includes . puzzle piece-like recesses (or protrusions, depending on the

1 manufacturer's preferences) which are designed to reversibly
2 register with a base plate portion which is configured of
3 either a middle, I-beam assembly (used to configure the
4 stilt for effecting the greatest height increase for its
5 user), or a foot support assembly (connected directly to the
6 base assembly, when a shorter configuration is desired).
7 The foot support assembly includes a spacer block which is,
8 in the preferred embodiment, made of a dense, shock
9 absorbing foam material, on top of which is a top plate with
10 a foot engagement assembly with suitable straps (VELCRO) for
11 securing one's foot, shoe or boot in position atop the stilt
12 assembly.

13 The three assemblies of the preferred embodiment just
14 described interlock in the two described configuration, and
15 may be substituted or supplemented with additional
16 assemblies of differing heights to provide an even greater
17 variety of height options. Equivalent to the present
18 disclosure are units in which the I-beam (or its equivalent)
19 and the foam block are exchanged in relative positions.

20 The foam blocks of the foot assembly provide stability
21 and shock absorption for the stilts. Furthermore, by
22 varying the material used for the foam blocks, different
23 levels of shock absorption can be set by the user.

1 Applicant's approach to the problem described above is
2 certainly simple, but it is equally unobvious. Applicant's
3 informal surveys of professional and amateur stilt users
4 reveal a long but unsatisfied need for height adjustable
5 stilts that are less expensive than the costly adjust on-
6 the-fly stilts, have no safety risk of sudden catastrophic
7 height drops, and provide variable shock absorption.
8 Despite this well-known and long-existing problem, no one
9 has presented a viable, cost effective solution such as
10 applicant here provides.

11 12 BRIEF DESCRIPTION OF THE DRAWINGS

13 Fig. 1 is a rear, elevational, exploded view of a stilt
14 assembly of the present invention.

15 16 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

17 With reference to Figure 1, the stilt assembly of the
18 present invention is identified generally by the reference
19 number 10.

20 Stilt assembly 10 includes a base assembly 12 with a
21 base plate 14 having a traction surface (not visible in the
22 drawing) on the bottom most position of the base assembly
23 12. The upper surface 16 of base assembly 12 includes

1 puzzle registry 18 which is designed to reversibly register
2 with a complementarity configured based plate portion 20 of
3 a middle assembly 22 (used to configure the stilt for
4 effecting the greatest height increase for its user), or
5 with a puzzle registry 23 of a base plate assembly 24 of a
6 foot support assembly 25 (connected directly to the base
7 assembly 12, when a shorter configuration is desired).

8 In the preferred embodiment, middle assembly 22
9 includes a plastic I-beam 27 which provides the height of
10 middle assembly 22. A plastic I-beam structure is chosen
11 for lightness and in view of cost considerations, but
12 alternative spacing material and configurations are
13 acceptable, and within the scope of the present invention.

14 The foot support assembly 25 includes a foam spacer
15 block 26 which is, in the preferred embodiment, made of a
16 dense, shock absorbing foam material (available from sources
17 such as the Minnesota Mining and Manufacturing Company), on
18 top of which is a top plate 28 with a foot engagement
19 assembly 30, in turn, with suitable straps 32 (VELCRO) for
20 securing one's foot, shoe or boot in position atop the stilt
21 assembly 10.

22 The puzzle registry 23 of base plate 24 of foot support
23 assembly 25 is configured to reversibly engage,

1 alternatively, with either puzzle registry 18 of base
2 assembly 12 or with puzzle registry 29 which is situated
3 atop I-beam member 27 of middle assembly 22.

4 The three assemblies of the preferred embodiment just
5 described interlock in the two described configuration
6 (taller or shorter configuration, respectively with and
7 without the middle, I-beam assembly 22), and certain of the
8 described assemblies, or components thereof , may be
9 substituted or supplemented with additional assemblies of
10 differing heights to provide an even greater variety of
11 height options. Equivalent to the present disclosure are
12 units in which the I-beam (or its equivalent) and the foam
13 block are exchanges in relative positions, as well as units
14 in which the puzzle assemblies are respectively reversed in
15 the their male/female configuration as shown.

16 Although the invention has been described with
17 reference to specific embodiments, this description is not
18 meant to be construed in a limited sense. Various
19 modifications of the disclosed embodiments, as well as
20 alternative embodiments of the inventions will become
21 apparent to persons skilled in the art upon reference to the
22 description of the invention. It is, therefore,

1 contemplated that the appended claims will cover such
2 modifications that fall within the scope of the invention.
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